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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
RUTKOWSKI, JEFFREY M	

ART UNIT	PAPER NUMBER
2473	

NOTIFICATION DATE	DELIVERY MODE
10/16/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/619,384	CORSON ET AL.	
	Examiner	Art Unit	
	JEFFREY M. RUTKOWSKI	2473	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-14,18-21,25,30,33,35,39,42 and 44-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-14,18-21,25,30,33,35,39,42 and 44-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 6, 15-17, 22-24, 26-29, 31-32, 34, 36-38 and 43 have been cancelled.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/27/2009 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. **Claims 1-4, 5, 7-12, 14, 18, 25, 30, 33, 39, 40, 42, 44, 46-49, 52, and 53** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta et al. (US 2001/0034228) in view of Alriksson et al. (US Pg Pub 2001/0024443), hereinafter referred to as Alriksson, and Daruwalla et al. (US Pat 7,058,007), hereinafter referred to as Daruwalla.

6. For **claims 1, 39, 42, 46, 48, and 52,** Lehtovirta discloses a failure recovery operation where partial and complete network node failures are detected **[figure 10]**. In the case where a partial failure is detected, a list (fault signal) containing affected User Equipment (UE) and Radio Access Bearers (RABs) is generated and distributed among the network nodes. The network node that receives the list (fault signal) uses the list information to reset all affected RABs (fault response operation). Additionally, fault responses could also include a reset of all RABs for a particular UE and the resetting of signaling connections **[0044-0045]**.

7. The fault messages in Lehtovirta's invention are distributed among network nodes. Lehtovirta does not disclose the UEs (end nodes) receive a fault signal or perform a recovery operation. Daruwalla discloses an architecture where an modem (end node) initiates a fault response upon the reception of a failure announcement message from a Cable Modem Termination System (CMTS) (network node). In Daruwalla's invention the fault response performed by the modem is to cutover to a secondary path by connecting to another CMTS **[col.**

14 lines 4-17, figures 6 and 7]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Daruwalla's fault recovery mechanism in Lehtovirta's invention to reduce delays caused by equipment failure or a network failure **[Daruwalla, col. 2 lines 50-55]**.

8. Lehtovirta does not disclose the generation of Mobile Internet Protocol (IP) signals. Alriksson suggests *generating at the end node* (a node that is performing source routing, see paragraph 0109), *from Mobile IP signals directed to said end node or transmitted by said end node* (gateway capability messages are sent in Mobile IP signals are sent to the end node), *a list of network nodes identifying network nodes used in routing signals to or from said end node* (the information is used to populate a routing table on the source node, see paragraph 0105. Also, figure 3 shows there are two gateways that transmit the messages), *said Mobile IP signals including at least one of a Mobile IP agent solicitation message, a Mobile IP agent advertisement message* (Mobile IP agent advertisements are used to notify the source nodes of an Internet gateway(s) availability, see paragraph 0109), *a Mobile IP registration message and a Mobile IP registration reply message.* It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Alriksson's architecture in Lehtovirta's invention to allow an end node to determine the capabilities of certain nodes on the network (Alriksson, paragraph 0109).

9. For **claims 2, 47, and 49,** Lehtovirta further teaches comparing network node information included in the received fault signal to information in the generated list identifying at least one network node used in routing signals to or from the end node (see paragraphs 44 and 45).

10. For **claim 3,** Lehtovirta further teaches determining the fault response operation as a function of information stored in the end node, the stored information relating to a plurality of possible operations (see paragraphs 44 and 45).

11. For **claims 4 and 25,** Lehtovirta discloses a failure recovery operation where partial and complete network node failures are detected **[figure 10]**. In the case where a partial failure is detected, a list (fault signal) containing affected User Equipment (UE) and Radio Access Bearers (RABs) is generated and distributed among the network nodes. The network node that receives the list (fault signal) uses the list information to reset all affected RABs (fault response operation). Additionally, fault responses could also include a reset of all RABs for a particular UE and the resetting of signaling connections **[0044-0045]**.

12. The fault messages in Lehtovirta's invention are distributed among network nodes. Lehtovirta does not disclose the UEs (end nodes) receive a fault signal or perform a recovery operation. Daruwalla discloses an architecture where an modem (end node) initiates a fault response upon the reception of a failure announcement message from a Cable Modem Termination System (CMTS) (network node). In Daruwalla's invention the fault response performed by the modem is to cutover to a secondary path by connecting to another CMTS **[col. 14 lines 4-17, figures 6 and 7]**. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Daruwalla's fault recovery mechanism in Lehtovirta's invention to reduce delays caused by equipment failure or a network failure **[Daruwalla, col. 2 lines 50-55]**.

13. For **claim 5,** Lehtovirta further teaches using a list of network nodes to determine if the node is used in the routing of signals to the end node (see paragraph 44).

14. For **claim 7,** Lehtovirta further teaches the stored information includes information identifying a network node which is used by the end node as an access node through the end node is coupled to other nodes in the communications network (see paragraph 46; The RNC coupled to the base station is used by the end node as an access node.).

15. For **claim 8,** Lehtovirta further teaches the access node is a base station and the end node is a mobile device that is coupled to the base station by a wireless communications link (see Fig. 1 Boxes 28 and 30).

16. For **claims 9 and 33,** Lehtovirta further teaches generating at least a portion of the stored information identifying the network nodes used in routing signals to or from the end node from information included in signals sent to or from the end node (see paragraph 44).

17. Lehtovirta does not disclose generating at least a portion of the stored information identifying the network nodes used in routing signals to or from the end node from information included in signals sent to or from the end node. Alriksson discloses dynamically generating at least a portion of the stored information identifying the network nodes used in routing signals to or from the end node from information included in signals sent to or from the end node (the routing table entries are dynamically generated using Mobile IP agent advertisements, see paragraph 0109). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Alriksson's architecture in Lehtovirta's invention to allow an end node to determine the capabilities of certain nodes on the network (Alriksson, paragraph 0109).

18. For **claim 10,** Lehtovirta teaches all the subject matter of the claimed invention with the exception of dynamically generating at least a portion of the stored information identifying

network nodes includes: operating the end node to monitor for non-fault related signals and to generate at least some of the stored information from the monitored non-fault related signals.

19. However, Alriksson teaches dynamically generating at least a portion of the stored information identifying network nodes includes: operating the end node to monitor for non-fault related signals and to generate at least some of the stored information from the monitored non-fault related signals (the source node monitors the network for Mobile IP agent advertisements. The information from the agent advertisements is used to populate a route table, see paragraphs 0105 and 0109). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Alriksson's architecture in Lehtovirta's invention to allow an end node to determine the capabilities of certain nodes on the network (Alriksson, paragraph 0109).

20. For **claim 11,** Lehtovirta further teaches session signaling messages communicated to or from the end node (see paragraph 49).

21. For **claim 12,** Lehtovirta further teaches the non-fault related signals are routing messages (see paragraph 10).

22. For **claim 14,** Lehtovirta discloses a fault response where a RAB and/or signaling connection should be released (end node state update operation) **[0045]**.

23. For **claim 18,** Lehtovirta further teaches receiving a fault signal at a first network node; and sending a network node fault signal to the end node in response to receiving a fault signal (see paragraph 44).

24. For **claim 40**, Lehtovirta suggests *said device includes a wireless transmitter; and wherein means for receiving includes a radio receiver circuit* (figure 1 shows an end node uses an antenna as a transceiver, which is an integrated transmitter and receiver).

25. For **claim 44**, Lehtovirta discloses *fault response actions to be taken to respond to faults at network nodes* (different actions are taken for partial and complete network failures, see paragraphs 0044-0045).

26. Lehtovirta does not disclose the generation of a list for routing IP packets. Alriksson discloses *genrating the list used in routing of IP packets to said mobile node* (routing table entries are generated to route Mobile IP packets, see paragraphs 0105 and 0109). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Alriksson's architecture in Lehtovirta's invention to allow an end node to determine the capabilities of certain nodes on the network (Alriksson, paragraph 0109).

27. For **claim 53,** Lehtovirta further teaches the device includes a wireless transmitter; and where means for receiving includes a radio receiver circuit (see Fig. 1 Box 30).

28. **Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta in view of Daruwalla, and Alriksson, as applied to **claim 1**, and further in view of Hippelainen et al. (US 2004/0081086).

29. For **claim 13**, the combination of Lehtovirta Daruwalla and Alriksson discloses the use of Mobile IP (see Alriksson paragraph 0109). The combination of Lehtovirta Daruwalla and Alriksson does not disclose the use of a Mobile IP registration operation in response to the fault. Hippelainen teaches releasing a resource link and a Mobile IP registration operation in response to the fault (see paragraph 5). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Hippelainen in the system of Lehtovirta. The motivation for doing so is to make the system more reliable.

30. **Claims 19-21 and 41** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta in view of Alriksson and Daruwalla as applied to **claim 18** above, and further in view of Shah (US 5,390,326).

31. For **claims 19-21 and 41,** Lehtovirta teaches sending signals to a plurality of end nodes (see paragraphs 44 and 45). Khalil teaches sending fault messages using internet protocol (see paragraphs 4 and 5). Lehtovirta in view of Khalil teaches all the subject matter of the claimed invention with the exception of periodically sending fault signals to a plurality of end nodes at preselected time intervals and monitoring for fault signals at preselected time intervals.

32. However, Shah teaches periodically sending fault signals to a plurality of end nodes at preselected time intervals (see col. 4 lines 44-46 and 53-59); and operating at least some of the plurality of end nodes to monitor for fault signals at the preselected time intervals but not between the preselected time intervals (see col. 4 lines 44-46). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Shah in the system of Lehtovirta in view of Khalil. The motivation for doing so is to allow the nodes only have to monitor for fault signals at the time intervals selected, which allows the nodes to reduce processing power previously spent on constantly monitoring for fault signals.

33. **Claim 30** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta in view of Daruwalla and Alriksson as applied to **claim 25** above, and further in view of Khalil et al. (US Pat 6,578,085), hereinafter referred to as Khalil.

34. For **claim 30,** Lehtovirta further teaches where the stored information includes information identifying a network node, in the list of network nodes, which is used by the end node (see paragraph 44). The combination of Lehtovirta, Alriksson and Daruwalla does not

discloses the node being used by the end node as at least one of a Mobile IP home agent, a SIP proxy server, and a SIP location registrar.

35. However, Khalil teaches the node being at least one of a Mobile IP home agent, a SIP proxy server, and a SIP location registrar (see col. 5 lines 33-42). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Khalil in the system of Lehtovirta. The motivation for doing so is to generate the list as mobiles register so that is no delay when the list needs to be accessed.

36. **Claim 35** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta (US 2001/0034228) in view of Daruwalla and Alriksson, as applied to **claim 25**, and further in view of and Shah (US 5,930,326).

37. For **claim 35,** Lehtovirta teaches sending signals to a plurality of end nodes (see paragraphs 44 and 45). Lehtovirta does not disclose periodically sending fault signals to a plurality of end nodes at preselected time intervals and monitoring for fault signals at preselected time intervals.

38. However, Shah teaches periodically sending fault signals to a plurality of end nodes at preselected time intervals (see col. 4 lines 44-46 and 53-59); and operating at least some of the plurality of end nodes to monitor for fault signals at the preselected time intervals but not between the preselected time intervals (see col. 4 lines 44-46). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Shah in the system of Lehtovirta in view of Khalil. The motivation for doing so is to allow the nodes only have to monitor for fault signals at the time intervals selected, which allows the nodes to reduce processing power previously spent on constantly monitoring for fault signals.

39. **Claim 45** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta et al. (US 2001/0034228) in view of Alriksson and Daruwalla, as applied to **claim 44** above, and further in view of Hippelainen et al. (US 2004/0081086).

40. For **claim 45,** Lehtovirta does not disclose the use of a Mobile IP registration operation in response to the fault. However, Hippelainen teaches releasing a resource link and a Mobile IP registration operation in response to the fault (see paragraph 5). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Hippelainen in the system of Lehtovirta to make the system more reliable.

41. **Claims 50 and 51** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta in view of Daruwalla.

42. For **claims 50 and 51**, Lehtovirta discloses a failure recovery operation where partial and complete network node failures are detected **[figure 10]**. In the case where a partial failure is detected, a list (fault signal) containing affected User Equipment (UE) and Radio Access Bearers (RABs) is generated and distributed among the network nodes. The network node that receives the list (fault signal) uses the list information to reset all affected RABs (fault response operation). Additionally, fault responses could also include a reset of all RABs for a particular UE and the resetting of signaling connections **[0044-0045]**. Lehtovirta discloses *determining a fault response operation as a function of fault response information stored prior to receiving the fault signal, said stored fault response operation relating to a plurality of possible operations* (different fault responses are used for a full or partial failure, see paragraphs 0044-0045. Since messages are sent in response to the type of fault detected, Lehtovirta also suggests the fault response is pre-programmed into the node or stored prior to receiving a fault signal.

43. The fault messages in Lehtovirta's invention are distributed among network nodes. Lehtovirta does not disclose the UEs (end nodes) receive a fault signal or perform a recovery operation. Daruwalla discloses an architecture where an modem (end node) initiates a fault response upon the reception of a failure announcement message from a Cable Modem Termination System (CMTS) (network node). In Daruwalla's invention the fault response performed by the modem is to cutover to a secondary path by connecting to another CMTS **[col. 14 lines 4-17, figures 6 and 7]**. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Daruwalla's fault recovery mechanism in Lehtovirta's invention to reduce delays caused by equipment failure or a network failure **[Daruwalla, col. 2 lines 50-55]**.

Response to Arguments

Applicant's arguments with respect to **claims 1-5, 7-14, 18-21, 25, 30, 33, 35, 39-42 44-50 and 53** have been considered but are moot in view of the new ground(s) of rejection.

The arguments with respect to a fault response being determined based on the type of fault are not persuasive because Lehtovirta discloses a different fault response for a full or partial failure (see paragraphs 0044-0045). Since messages are sent in response to the type of fault detected, Lehtovirta also suggests the fault response is pre-programmed into the node (stored prior to receiving a fault signal).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY M. RUTKOWSKI whose telephone number is (571)270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeffrey M Rutkowski/
Examiner, Art Unit 2473

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